The Cross-Cultural Generalizability of the Five Factor Model of Personality

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Summary: A review of studies on the cross-cultural generalizability of the Big-Five and the F.F.M. of personality describes the convergent and divergent results of two main research traditions ("emic" and "etic") on this topic. The main divergent results relate to the Intellect-Openness dimension. The cross-cultural generalizability of the Intellect-Openness dimension is clearly problematic in the «emic» and psycholexical stream of research but firmly established by the «etic» stream using imported inventories. After this review of previous research, are presented and discussed results of cross-cultural geralizability research on the F.F.M. asssessed by the NEO-PI-R. Comparisons of Varimax structures in 16 different cultures clearly show the cross-cultural geralizability of Neuroticism, Openness and Conscientiousness.Extraversion and Agreeableness, described as components of the interpersonal circumplex, appear to be more sensitive to cultural context. For some cultures -- in Varimax structure-- the factorial location of some facets of dimensions Extraversion (Assertiveness) and Agreeableness (Altruism), shifts on the other dimension.

These results are in line with previous research and suggest that the anthropological line of research that traditionnally overemphasizes the cultural diversity and the impact of culture on individual psychology, probably tends to underestimate the role of cross-cultural invariance in individual differences.

Key Words :

Personality, Five Factor Model

NEO-PI-R

Cross-cultural generalizability

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The Five Factor Model of Personality.

Over the past decade, the psychology of personality has been largely influenced by the Five-Factor model (FFM or Big-Five) (*see reviews: Deary & Matthews, 1993; Digman, 1990; John, 1990; John, Angleitner & Ostendorf, 1988; McCrae & John, 1992; Rolland, 1993, 1996*). The five factor taxonomy of personality dimensions, in part due to the great amount of research that has contributed to establishing its validity, now stands as a model of reference amongst the hierchical models of personality (Cattell, 1996; Eysenck, 1991; 1992). This model has, however, been challenged and finds itself at the centre of fierce debate. (Block, 1995a, 1995b, in press; Brand, 1995; Briggs, 1992; Cattell, 1996; Costa & McCrae, 1992, 1995; Eysenck, 1992; Goldberg & Saucier, 1995; Loevinger, 1994; McAdams, 1992; Pervin, 1994). Nevertheless, most alternative solutions integrate to a large extent this model, often either being partly based on it or regrouping its five dimensions, or with the addition of extra dimensions (Rolland, 1996).

The five dimensions in the five factor taxonomy are Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness.

Neuroticism (vs Adjustment) is a classic dimension of personality integrated into most models. It takes into account individual differences in the inclination to construct, perceive and feel 'reality' as being problematic, threatening and difficult (concern, worries, low opinion of self …) and feel 'negative' emotions (fear, shame, anger...).

Extraversion (vs Introversion) is also a classic dimension. Extraversion reflects to the *quantity* and *intensity* of relationships with one's environment (notably social), and refers to a tendency to seek contacts with the environment with energy, spirit, enthusiasm and confidence and to live out experiences positively .

Openness is a dimension that the Five-Factor Model, unlike its counterparts, deals with at the second order level. This dimension is independent of cognitive aptitudes and groups together different types of behaviour relative to an active search for and a love of new experiences. It describes cognitive and non-cognitive openness to experience which is manifested in a wide range of interests and an eagerness to seek out and live new and unusual experiences without anxiety and even with pleasure. The acceptance of new experiences may be relevant to various domains and different spheres (representations, beliefs, values, actions...) of behaviour.

Agreeableness is also described uniquely in the Five-factor model as a second order dimension. This dimension concerns the nature of one's relationships with others, and differs from extraversion (another dimension with a strong interpersonal component) in that it refers more to the relational sphere and the tone of relationships with others (kindness, empathy or cynicism, hostility...) whereas extraversion refers more to the individual him/herself. Agreeableness deals with the quality of interpersonal relationships on a spectrum ranging from compassion to antagonism.

Conscientiousness is a dimension that focuses on issues such as orientation, persistency of behavior and control of impulses. This dimension comprises dynamic elements (anticipation, success-orientation, task-orientation, implication…) and control and inhibition elements of behaviour (organization, perseverance, thoroughness, respect of standards and procedures…).

The five-factor model (Big-Five or F.F.M.) was originally developed on research founded on a psycho-lexical approach. From this perspective, it may be postulated that «Those individual differences that are of most significance in the daily transactions of persons with each other will eventually become encoded into their language. The more important is such a difference, the more people will notice it and wish to talk of it, with the result that eventually they will invent a word for it » (Goldberg, 1981, p.141-142). Language provides a list of descriptors that enable to describe the usual behaviour of a person and differentiate between his/her behaviour and that of others. An analysis of covariations of descriptions (of oneself and others) made by means of these descriptors enable to detect traits of personality (i.e. dimensions describing individual differences that are likely to be manifested in relatively stable and consistent patterns of cognition, feelings and action) and covariation patterns between these traits: the structure of the personality. This method made it possible, initially in an Anglo-American semantic context, to extract with relative consistency the five dimensions of the five-factor model (for reviews see: Goldberg, 1993, 1995; John, 1990; Wiggins & Trapnell, 1997).

Over the past decade, the Five-Factor model (Big-Five or FFM) has become a model of reference and object of a large amount of research aiming to establish or confirm its validity. The five dimensions of this model have been systematically extracted by means of diverse instruments (lists of words in a psycholexical approach or classic personality inventories) and diverse assessment sources (assessment of oneself or others) (McCrae & Costa, 1987; Mervielde, 1994; Somer & Goldberg, 1999) independently of the factorial procedures used (Goldberg, 1990), modes of assessment implemented (Botwin & Buss, 1989;

Digman & Takemoto-Chock, 1981; McCrae & Costa, 1987; Mervielde & DeFruyt, 2000; Norman, 1963; Tupes & Christal, 1961) or affinity with the people assessed (Peabody & Goldberg, 1989; Somer & Goldberg, 1999), on samples of subjects of varying ages (Costa & McCrae, 1988 ; 1994 ; De Fruyt et al. 2000; Digman & Shmelyof, 1996; Mervielde & DeFruyt, 2000) including psychiatric populations (Yang and al., 1999) and from various cultures, using either a psycho-lexical approach (Anglo-American: Goldberg, 1990; 1992; Hofstee, DeRaad & Goldberg, 1992; Saucier, 1997; German: Ostendorf, 1990; Hungarian: Szirmak & ReRaad, 1994; Italian: Caprara & Perugini, 1994; Polish: Szarota, 1996; Dutch: DeRaad, 1992; DeRaad, Hendriks & Hofstee, 1992; Czech: Hrebichova, 1995; Turkish: Somer & Goldberg, 1999), or lexical markers and standardized questionnaires (Benet-Martinez & John, 1998; 2000; Bond, 1979; Bond, Nakazato & Shiraishi, 1975; Chen & Piedmont, 1999 ; Costa & McCrae, 1992; Costa, McCrae & Jónsson, 1999; Hendriks & Perugini, 2000; Hoekstra et al., 1996, 1997; John, 1990; Kallasmaa et al., 1999; 2000; Katigbak et al., 1996; Knecevic, Radovic & Opacic, 1997; Martin et al., 1997; Marusic et al., 1996; McCrae & Costa, 1997; McCrae, Costa & Yik, 1996; McCrae et al., 1998; Montag & Levin, 1994; Ostendorf & Angleitner, 1994; Mastor, Cooper & Jin, 1998; Paunonen et al., 1992; 1996; Piedmont & Chae, 1997; Pulver et al., 1995; Rolland, 1993; Rolland, 1996; Rolland, 1998; Rolland et al., 1998; Trull & Geary, 1997; Yang & Bond, 1990; Yang et al., 1999; Yik & Bond, 1993). [1]

Cross-Cultural Generalizability of the F.F.M.

The validity of the structure of this model therefore seems to have been solidly established. However, the validity of structure is but one aspect, and insufficient in itself, of the validity of a model, which should take into account other elements such as concurrent validity, criterion validity, temporal stability, genetic components and cross-cultural generalizability. An examination of all of these elements is not within the realms of the present article; this study shall focus on *cross-cultural generalizability*. One important criterion of validity of a model of personality is its cross-cultural validity (John, Goldberg & Angleitner, 1984), that is to say, the examination of human behaviour invariants that are relatively independent of cultural systems. Given its origin (the psycho-lexical approach was founded on the analysis of Anglo-American linguistic terms), it is therefore relevant to ask whether the five-factor model does not exclusively reflect the idiosyncrasies produced by the North-American language and culture. Juni, for example, explicitly formulates this point of view: «The simplistic (a posteriori) basis of [its] F.F.M., as it is derived from colloquial usage

[1] The F.F.M. has been also extracted in animals (King & Figueredo, 1997; Weiss, King & Figueredo, 2000).

of language, makes the model and its tools intrinsically bound to the culture and language that spawned it. Different cultures and different languages should give rise to other models that have little chance of being five in number nor of having any of the factors resemble those derived from the linguistic/social network of Middle-class Americans» (Juni, 1996, p. 864). Criticism of this type has its roots in anthropological tradition and cross-cultural psychology, which tend to underline the diversity of cultures and their impact on the psychology of the individual (Markus & Katayama, 1991; 1998). When discussing this problem, Church and Loner (1998) point out that cultural psychology and social constructivism see the personality as an element that cannot be dissociated from culture; from this perspective «cross-cultural comparison of personality predispositions (is) futile» (p.40). It is indeed important to know whether personality traits (i.e. the dimensions describing individual differences that are likely to be manifested in relatively stable and consistent patterns of cognition, feelings and actions) are shaped by the culture (for example, educational practices, religious and moral values, representation systems encoded in the language...), because then personality traits and the structure of these traits should vary in keeping with the different cultural systems. On the other hand, if personality traits and the structure of these traits can be seen in terms of human universals, then the structure of these traits should show relative cross-cultural stability. This subject has been discussed both from a general point of view and within the framework of the five-factor model; hence we envisage focusing here only on the five-factor model.

A vast amount of research has focused on this essential element of validity of the five-factor model of personality. If we refer to the classic distinction suggested by Berry (1969), we can divide research into two categories: the «emic»-type approach and the «etic»-type approach. The «*emic*» approach aims at discovering the constructs specific to each culture by gathering specific linguistic material in each culture. The «*etic*» approach, on the contrary, aims at verifying whether the constructs identified in a given culture can be found in another context, thereby attempting to detect universals. If we schematize, studies based on the psycho-lexical approach often incorporate what can be called an «emic» approach, whereas studies using lexical markers or standardized inventories use an «etic»-type approach. Some research combines both approaches in what is called an «*integrated*» method, thereby enabling both cross-cultural unversals and specific dimensions to be identified (Yang & Bond, 1990; Yik & Bond, 1993; Katigbak, Church & Akamine, 1996).

The Emic Perspective.

From an «emic» perspective, although a certain number of psycho-lexical studies[2] have succeeded in extracting the Big-Five by means of taxonomies implemented in diverse linguistic and cultural contexts [Anglo-American (Goldberg, 1990), Dutch (DeRaad, 1994), Croatian (Mlacic, 2000), German (Ostendorf, 1990), Turkish (Somer & Goldberg, 1998)], numerous studies have, in other contexts, obtained more problematic results. To briefly summarize some of these results:

- In numerous studies the *Openness* factor cannot be extracted (DeRaad & VanHeck, 1994; Szirmak & DeRaad, 1994; DiBlas & Forzi, 1998; 1999) as it seems to fluctuate very broadly depending on the cultural context (Somer & Goldberg, 1998) and the type of terms retained (Saucier & Goldberg, 1997; DiBlas & Forzi, 1999). This has led certain authors to discuss dropping it from taxonomies derived from psycho-lexical studies (DeRaad, 1994; 1998; DeRaad & VanHeck, 1994; DiBlas & Forzi, 1998, 1999).
- When purely evaluative terms (usually excluded following Allport & Odbert's initial decision) are included in the taxonomies, seven dimensions should be extracted (Almagor, Tellegen & Waller, 1995; Benet-Martinez & Waller, 1997)
- In certain linguistic and cultural contexts, even when evaluative terms are excluded more than five dimensions are normally necessary to cover the linguistic material retained (Church et al., 1997; Isaka, 1990; Katigbak, Church & Akamine, 1996).
- Research combining «emic» and «etic» methods does not obtain exactly the same dimensions as those extracted by using the two sources separately (DiBlas & Forzi, 1999; Yang & Bond, 1990; Yik & Bond, 1993; Katigbak, Church & Akamine, 1996).
- In certain cases, a psycho-lexical approach combined with an «emic» method is apparently not able to identify the essential dimensions (such as Neuroticism) that are extracted using an «etic» approach. (Caprara, G.V., Barbaranelli, C., Borgogni, L. & Perugini, M., 1993; Caprara & Perugini, 1994; DeRaad, DiBlas & Perugini, 1998; DiBlas & Forzi, 1998, 1999). This applies exclusively to the possibility of extracting a dimension by means of methods using the psycholexical (emic) approach. In cultural and linguistic contexts where the extraction of dimensions Openness and Neuroticism seems difficult or impossible using this method, it is nevertheless possible to extract these dimensions using an etic (imposed) approach and the inventory method. Hence in the Italian context, although the five dimensions of the Big-Five and notably the dimension Neuroticism were extracted

[2] Constitution of a specific and hence unique linguistic corpus, elaboration of specific taxonomies, extraction of specific dimensions of personality pertinent to each semantic and cultural context.

using the inventory method ad hoc (Caprara et al., 1992, Caprara et al. 1993; Perugini & Leone, 1996), it seems that the dimension Neuroticism cannot be extracted using classic methods incorporating a psycholexical approach (Caprara & Perugini, 1994; Di Blas & Forzi, 1998, 1999). This surprising result justifies criticisms formulated by McCrae (1994) and Loevinger (1994) in regards to the psycholexical approach, which they consider insufficiently comprehensive.

The Etic Perspective.

From an «etic» perspective, the validity of the five-factor model of personality (F.F.M.) in non Anglo-American linguistic and cultural contexts may be examined by using either validated «markers» or personality inventories.

In most cases, studies using «markers» have confirmed the existence of this model. This is the case, for example, for Germany (Borkenau & Ostendorf, 1990), Australia (Heavens, Connors & Stones, 1994), France (Rolland, 1993), Italy (DiBlas & Forzi, 1999; Perugini & Leone, 1996), Japan (Bond, Nakazato & Shiraishi, 1975), Taiwan (Yang & Bond, 1990), Hong-Kong (Bond, 1979; Trull & Geary, 1997; Yik & Bond, 1990). Nevertheless, this is not always the case, for example, in the Philippines (Guthrie & Bennett, 1971)[3] and on a sample of black South Africans (Heaven et al., 1994).

Nowadays there exists a large number of questionnaires developed to measure the dimensions of personality of the five-factor model (F.F.M.). The NEO-PI-R Inventory (Costa & McCrae, 1992) is a questionnaire specifically conceived to assess this model. Out of all the personality inventories developed to assess the five dimensions of the F.F.M., to date this is the inventory that has been the most frequently adapted and validated in diverse linguistic and cultural contexts. The large number of validations of this inventory in different cultural contexts have rendered it possible to examine the general applicability of the five-factor model of personality. Analysis of the factorial structure of the 30 facets of this questionnaire adapted in widely diverse linguistic and cultural contexts (Anglo-American, Chinese-Hong-Kong, Chinese-Mandarin, Korean, Croatian, French, German, Hebrew, Icelandic, Japanese, Dutch-Flemish, Malay, Philippine, Portuguese, Taiwanese [4]) has shown that, in the Procustes

[3] It must be mentioned that Guthrie and Bennett did not extract 5 factors.

[4] Anglo-American: Costa & McCrae, 1992, Chinese: McCrae, Costa & Yik, 1996, McCrae, Zonderman et al., 1996; Chinese-Mandarin: Yang, McCrae et al., 1999; Korean: McCrae & Costa, 1997; Piedmont & Chae, 1997; Croatian: Marusic, Bratko & Eterovic, 1996; French: Rolland, Parker & Stumpf, 1998; Rolland, 1998; Hebrew: Montag & Levin; 1994, Icelandic: Costa, McCrae & Jónsson, 1999; Japanese: McCrae, Zonderman et al., 1996; Malay: Mastor, Cooper & Jin, 1998; Dutch-Flemish: Hoekstra, Ormel & DeFruyt, 1996, 1997; Philippine:

solutions, the general applicability of the five-factor model is excellent. On the other hand, in the Varimax solutions the structure of the dimensions Extraversion and Agreeableness is more problematic, because certain facets load on other dimensions. This is due to a combination of reasons: the type of rotations implemented in factorial analyses (McCrae & Costa, 1997; McCrae et al., 1996), the complex relationships that exist between Extraversion and Agreeableness (Churck & Burk, 1994; Hofstee, DeRaad & Goldberg, 1992; McCrae & Costa, 1989; McCrae et al., 1998; Peabody & Goldberg, 1989), and also real cross-cultural differences (McCrae et al., 1996; 1998). After a series of cross-cultural validity studies based on the NEO-PI-R inventory, McCrae & Costa concluded that: «Personality, as measured by the NEO-PI-R, can be characterized in every culture so far examined in terms of N, O and C factors, plus the interpersonal circumplex; and Procustes rotation shows that the circumplex can always be interpreted in terms of E and A factors» (McCrae & Costa, 1998 , p.182).

Although the NEO-PI-R is a questionnaire that has been specifically designed to assess the five-factor model, other questionnaires developed on the basis of other models can also be used to assess the dimensions of this model. This is notably the case for the P.R.F. (Jackson,1984) and the N.P.Q. (Paunonen, Jackson & Keikonen, 1990) inventories. Paunonen used these instruments to conduct a series of studies which established the cross-cultural validity of the five-factor model (Paunonen & Ashton, 1998; Paunonen and al., 1992; 1996), and actually succeeded in extracting the five dimensions of the five-factor model in widely varying linguistic and cross-cultural contexts (Germany, Canada, Finland, Poland, Russia). These results are all the more interesting because the N.P.Q. inventory is a non-verbal inventory which minimizes the possible structuring effect of language. The findings of this research were confirmed by Stumpf (1993), who also used the P.R.F. inventory to replicate the dimensions of the five-factor model in varying contexts (German, Anglo-American, Dutch and Filipino).

Summary of the studies on cross-cultural generalisability of the F.F.M.

Using diverse approaches in different linguistic and cross-cultural contexts, it is therefore possible to come up with the same five dimensions as those interpreted as being the five-factor model (Extraversion, Agreeableness, Conscientiousness, Adjustment and Openness) by using different approaches and in different. Such proof of the generalizability of the five-factor model is obviously an important element in its cross-cultural validity. The

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McCrae et al., 1998; Katigbak, Church & Akamine, 1996; Portuguese: McCrae & Costa, 1997; Taiwanese:

similarities that exist between the dimensions extracted in diverse linguistic and cultural contexts is another important element for the analysis of cross-cultural validity. In order to verify similarities between two constructs, it is not enough simply to make a subjective decision based on a visual examination of the results of the factorial analysis, it is also necessary to make cross-cultural comparisons of these constructs and quantify their proximity by means of Tucker's factorial coefficient of congruence (Tucker, 1951) or the coefficient of congruence validated by McCrae, Zonderman, Costa, Bond & Paunonen (1996).

«Emic»-type studies using a psycho-lexical approach focus on detecting dimensions specific to a given linguistic and cultural context and, because of their objectives and methodology, are not really suitable for cross-cultural comparisons based on quantitative indices. As the variables differ across lexical studies, one cannot ask if the factors are defined by the same variables in two different cultures, and congruence coefficients can't be calculated. «Emic» studies that do allow for the empirical analysis of similarity indices on the extracted dimensions are relatively rare. Recent research is nevertheless succeeding in overcoming these obstacles (DeRaad, DiBlas & Perugini, 1998; DeRaad, Perugini, Hrebickova & Szarota, 1998; DeRaad, Perugini & Szirmak, 1997; DeRaad et al., 1998; Hofstee et al., 1997; Saucier, Ostendorf & Peabody, 1998). Results from this research, which compares extracted dimensions in various contexts (German, Anglo-American, Hungarian, Italian, Dutch, Polish, Czech), have clearly established the cross-cultural validity of three dimensions: Extraversion, Agreeableness, Conscientiousness (Ostendorf, 1990; DeRaad, 1998, DiBlas et al. 1999, Saucier et al., 1998, DiBlas et al. 1999, Saucier et al., 1998). The cross-cultural validity of Adjustment is, in this type of study, rather poor and even downright insufficient (DeRaad et al., 1998) whilst the cross-cultural validity of the Openness dimension remains highly problematic (DeRaad & VanHeck, 1994; DeRaad, Perugini, Hrebickova, Szarota, 1998; DiBlas & Forzi, 1999).

«Emic» studies raise some problems of comparability that are not encountered in «etic»-type studies, which use inventories created in one linguistic and cultural context then validated in other cultures. With questionnaires, the variables remain the same across cultures, and consequently one can ask if the factors are defined by the same variables in two different contexts and examine the similarity of two factor structures through congruence coefficients. The NEO-PI-R inventory was used in a series of studies to compare factorial structures obtained in widely diverse linguistic and cultural systems (*German, Anglo-American,*

Chen, Piedmont, Ciarrochi & Eanes, in press.

Chinese-(Hong-Kong), Chinese-Mandarin, South Korean, Croatian, French, Hebrew, Icelandic, Italian, Japanese, Dutch-Flemish, Norwegian, Philippine, Portuguese, Russian, Serbian[5]). In all of the studies, the validity of the model was (in the Procustes solutions) very clear. Hendriks & Perugini (2000), using the F.F.P.I. extracted the Five Factor Personality dimensions in 13 linguistic anc cultural contexts (*Belgium, England, Germany, Italy, Croatia, Czech Republic, SHungary, Israeel, Japan, Slovakia, Spain, The Netherlands, U.S.A.*). Furthermore, Paunonen et al. (1996, 2000), who compared the factorial structure of five dimensions obtained using the PRF and NPQ inventories in various linguistic and cultural contexts (*Anglo-American, Canadian, Dutch, English, German, Norwegian, Israeli, Philippine*), showed an excellent cross-cultural validity on all of the dimensions of the five-factor model. Finally, Trull and Geary (1997) used a check-list (Goldberg's 50-BRS, 1992) and confirmatory methods to compare the structures obtained on two samples (*Anglo-American and Chinese*) and proved an excellent cross-cultural validity on all five dimensions.

If we summarize current results of cross-cultural validity studies on the five-factor model of personality which use quantitative techniques to estimate factorial proximity:

- The cross-cultural validity of the dimensions Extraversion, Agreeableness, Conscientiousness is clearly established by the two approaches: «emic»-type research based on the psycho-lexical approach and also «etic»-type studies. Dimensions E and A nevertheless seem (in the Varimax solutions) more sensitive to cultural effects (McCrae Costa, 1997 ; McCrae et al., 1998 ;Yang et al., 1999).
- The cross-cultural validity of the dimension Neuroticism is established in all «etic»-type research, but seems more problematic in studies using «emic» methods. If we take into consideration the vast number of studies carried out using personality inventories, the cross-cultural validity of the dimension Neuroticism is hardly debatable. In addition to the studies carried out using the NEO-PI-R, the cross-cultural validity of central personality dimensions such as Extraversion and Neuroticism (Anxiety) has been long and irrefutably established by a vast number of studies carried out using inventories such as the E.P.I., the

[5] Anglo-American: McCrae & Costa, 1997; McCrae et al., 1998; Costa, McCrae & Jónsson, 1999; Chinese-Hong Kong: McCrae & Costa, 1997; McCrae, Costa & Yik, 1996, McCrae, Zonderman et al., 1996; Chinese-Mandarin: Yang, McCrae et al., 1999; German: Angleitner & Ostendorf, 2000; McCrae & Costa, 1997, Costa, McCrae & Jónsson, 1999; Korean: McCrae & Costa, 1997; Piedmont & Chae, 1997; Croatian: Costa, McCrae & Jónsson, 1999; French: McCrae et al., 1998; Costa, McCrae & Jónsson, 1999; Rolland, Parker & Stumpf, 1998; Hebrew: McCrae & Costa, 1997; Icelandic: Costa, McCrae & Jónsson, 1999; Italian: Costa, McCrae & Jónsson, 1999; Japanese: McCrae & Costa, 1997; Dutch-Flemish: Costa, McCrae & Jónsson, 1999; Norwegian: Costa, McCrae & Jónsson, 1999; Philippine: McCrae et al., 1998; Katigbak, Church & Akamine, 1996; Portuguese: McCrae & Costa, 1997, Costa, McCrae & Jónsson, 1999; Russian: Costa, McCrae & Jónsson, 1999; Serbian: Costa, McCrae & Jónsson, 1999.

E.P.Q., the 16PF and the 16PF5, the MMPI2, the CPI, etc. See for example: Barrett & Eysenck, (1984); Butcher, Lim & Nezami (1998); Eysenck, (1983); Eysenck & Eysenck, (1982); Paunonen & Ashton (1998).

- The validity of the dimension O, which is very clearly established in «etic» type research, is very much more problematic in «emic» research. Problems of replication are such that some authors envisage dropping this dimension (DeRaad et al., 1998; DiBlas & Perugini, 1999).

If we compare the results of cross-cultural validity studies using the psycho-lexical approach on the one hand and the inventory approach on the other, differences on the dimensions Openness and Neuroticism are very noticeable. The lexical hypothesis has allowed for the extraction of the five dimensions (Big-Five) in a variety of linguistic contexts (Anglo-American, Czech, German, Dutch, Turkish etc.), and engendered a number of studies relative to the five-factor model. The major difference in cross-cultural validity between the Big-Five (five dimensions extracted using the lexical hypothesis and «emic» methods) and the F.F.M. (five dimensions extracted using the questionnaire approach and «etic» methods) concern the dimension Openness which certain discuss dropping, but eventually retain (DeRaad, 1998; DiBlas & Perugini, 1999). The hypothesis the most frequently put forward to account for the inability to extract Openness in certain linguistic and cultural contexts through psycholexical research is that --in certain cultures-- adjectives, normally used as a major support in taxonomic approaches, cover the domain insufficiently to allow for identification, thus affecting cross-cultural comparisons with Anglo-American taxonomies (DeRaad et al., 1998; DiBlas & Forgi; Somer & Goldberg, 1999; Saucier, 1997). Given the importance of the issue at stake, it is essential that cross-cultural validity studies, and more notably those focusing on this dimension, be extended to include a greater number of samples from diverse linguistic and cultural contexts. The study which shall now be presented falls into this category.

Objectives:

Using as a basis findings from previous studies, the present study is intended to verify, on the one hand, the cross-cultural generalizability of the Openness dimension which has proven to be very problematic in «emic» studies adopting the psycho-lexical perspective and, on the other hand, the cross-cultural generalizability of the dimensions E and A which seem (in varimax solutions) problematic in the operationalization proposed by Costa and McCrae

(1992). This study closely follows the lines adopted in previous research which uses the NEO-PI-R inventory to assess the cross-cultural generalizability of the five-factor model (McCrae & Costa, 1997; McCrae et al. 1998). The more specific contribution of the study is twofold : firstly, it significantly extends cross-cultural comparisons by integrating a larger sample of factorial structures from widely diverse linguistic and cultural contexts which, to date, have not been the object of comparative studies and, secondly, it analyses the cross-cultural generalizability of the F.F.M. using dimensions derived from Varimax rotations, which may allow for a better expression of cultural specificities than Procustes rotations (McCrae et al., 1998), but Varimax rotations may also reflect merely random error. In most previous research Procustes rotations on an Anglo-American reference structure are made before dimensions are compared.

Method:

«Etic» method: The cross-cultural generalizability of the dimensions of the five-factor model of personality was studied from an «etic» perspective, using an assessment made with the NEO-PI-R inventory. In cross-cultural comparisons, the «etic» method allows for a constant set of parameters to be maintained (item selection method, items, scoring protocol), hence ensuring that the role of these parameters is, to a certain extent, controlled in terms of similarity of factors studied and thereby enabling the role of cross-cultural differences be determined with greater precision (Paunonen et al., 1996, p.341).

Instrument: The instrument used for this study is the NEO-PI-R inventory (Costa & McCrae, 1992). This inventory, which measures the five domains of the F.F.M. (N, E, O, A, C) and comprises 30 facets (6 facets per domain) has become an instrument of reference (Cattell, 1996). A considerable amount of results supports the hypothesis that the FFM covers a very large range of personality traits (McCrae, 1989) and no other factor have so far been successfully proposed (McCrae & Costa, 1995). Moreover, as it measures 30 specific traits to describe the factors Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C), the NEO-PI-R offers the advantage of rating the personality in both domains and facets (Costa & McCrae, 1995c). This inventory was specially designed to assess the five dimensions of the F.F.M., and has been the object of more adaptations and validations in diverse linguistic and cultural contexts than any other inventory [6]. The number of facets per domain allows for a finely nuanced approach to the five dimensions. This inventory is therefore particularly well adapted for cross-cultural studies on the five-factor

[6] See footnotes # 4 and # 5 and Table I.

model of personality.

Samples: In this study we compare 16 factorial structures (VARIMAX rotations of *five dimensions*) extracted in diverse contexts using the 30 scales of the NEO-PI-R inventory (Costa & McCrae, 1992). Some of these factorial structures come from other publications and have been communicated to us by their authors. The wide diversity of this sample (described in Table I), which integrates a number of different linguistic and cultural contexts, has enabled us to satisfactorily examine the role of linguistic and cultural contexts.

Factorial solution : A number of solutions exist for making empirical examinations of the proximity of two factors (Butcher & Han, 1996). Confirmatory analysis is rarely used, as it has been suggested by several studies that this method presents problems concerning the analysis of the structure of the personality (Church & Burk, 1994; McCrae, Zonderman et al., 1996). The method proposed by McCrae, Zonderman et al. (1996) is the one that is the most often used. These authors suggest a using a coefficient of congruence to make comparisons between the structure studied and a reference structure once Procustes rotations have been made on the structure studied with the reference structure as target. The majority of cross-cultural validity studies compare dimensions derived from Procustes rotations that target a normative Anglo-American sample (DeRaad et al., 1998; Katigbak, Church, & Akamine, 1996; Marusik, Bratko & Eterovic, 1996; McCrae, Costa & Yik, 1996; McCrae & Costa, 1997; McCrae and al., 1996; 1998; Paunonen et al, 1996; Piedmont & Chae, 1997; Rolland, Parker & Stumpf, 1998; Yang et al., 1999). Procustes rotations render it is necessary to select a linguistic and cultural context as reference structure (the rotation of the structure studied targets the reference structure) and these rotations define the upper boundary of factor replicability, they are thus are good for falsifying the claim of replicability (generalizability) if in fact it is false. But Procustes rotations seem to mask real cultural differences, as has been pointed out by McCrae and Costa (McCrae & Costa, 1997, p. 180). Consequently, in order to allow for a better expression of simple structure, we opted for comparisons of dimensions derived from Varimax rotations, which have a less constraining effect on data. Varimax rotations maximize the variance of loadings and hence allow for the identification of the most salient dimensions in the data, without reference to an external structure as with Procustes rotations. We thus compiled Varimax results to see if there are discrepancies witht the American and French target and also consider whether one can detect some cultural patterns.

Coefficient of congruence: Given the objective of this study, it is indispensable that a replicability analysis be made of each factor independently of the others. For this purpose

there exists a set of indices, Tucker's Congruence Coefficient (Tucker, 1951) has been very broadly used in this type of study (Barrett, 1986 ; Haven and TenBerge, 1977). The factorial replication threshold is **0.85** (Haven and TenBerge, 1977).

Results :

Descriptions of the samples are presented in Table I. For each of the five dimensions (N, E, O, A, C) extracted after Varimax rotations on the 16 linguistic and cultural samples, comparisons (by means of Tucker's Congruence Coefficient) were carried out between the dimensions extracted in French and Anglo-American cultural contexts on the one hand, and the dimensions extracted in other contexts on the other (Table II and Table III).

Table I

Description of sample and sources

	Number			Family	Source
	Total	H.	F.		
Chinese	352	161	191	Sino-Tibetan	McCrae, Costa & Yik (1996)
Croatian	256	123	133	Indo-European	Marusic, Bratko & Eterovic (1996)
Dutch	621	323	348	Indo-European	Hoekstra, Ormel & DeFruyt (1997)
Estonian	711	225	486	Uralic	Kallasmaa, Allik, Realo & McCrae (2000)
French	801	334	467	Indo-European	Rolland (1998)
Hebrew	935	396	539	Hamito-semitic	Montag & Levin (1994)
Icelandic	337			Indo-European	Costa, McCrae & Jónsson (P.C. 1999)
Italian	699	349	342	Indo-European	Barbaranelli & Comrey (P.C.. 1999)
Korean	2323	1234	1087	Non classified	in : McCrae & Costa (1997)
Malay	451	124	327	Austronesian	Mastor (P.C. 1999)
Norwegian	380			Indo-European	Martinsen (P.C. 1999)
Philippine	696	237	445	Austronesian	McCrae et al. (1998)
Portuguese	2000	861	1133	Indo-European	Pedroso de Lima & Simoes in : McCrae & Costa (1997)
Russian	350	142	208	Indo-European	Martin et al. (P.C. 1999)
Spanish	216	99	116	Indo-European	Sanz Fernandez (P.C., 1999).
U.S.	1000	500	500	Indo-European	Costa & McCrae (1992)
Total:	**12128**				P.C.: Personal Communication

Table II

Coefficients of congruence (Tucker) between the structure of the dimensions N, E, O, A C (Varimax Rotations) for the French sample and the structure for 15 selected samples:

	N	**E**	**O**	**A**	**C**	
Sample:						Mean:
Chinese	0.87	0.87	0.95	0.88	0.96	***0.906***
Croatian	0.91	0.85	0.94	0.90	0.94	***0.908***
Dutch	0.89	0.95	0.97	0.96	0.96	***0.946***
Estonian	0.90	*0.80*	0.95	0.86	0.96	***0.894***
Hebrew	0.87	0.91	0.96	0.96	0.97	***0.934***
Icelandic	0.93	0.94	0.95	0.98	0.96	***0.952***
Italian	0.88	0.87	0.96	0.90	0.98	***0.918***
Korean	0.89	0.88	0.96	0.91	0.96	***0.920***
Malay	0.87	0.89	0.86	0.94	0.94	***0.900***
Norwegian	0.91	*0.82*	0.91	0.90	0.95	***0.898***
Philippine	0.92	0.87	0.95	0.93	0.96	***0.926***
Portuguese	0.90	0.90	0.89	0.95	0.94	***0.916***
Russian	0.90	0.88	0.92	0.94	0.95	***0.918***
U.S.	0.89	0.96	0.97	0.97	0.97	***0.952***
Spanish	0.91	0.91	0.93	0.89	0.95	***0.918***
Mean:	***0.896***	***0.887***	***0.938***	***0.9247***	***0.9567***	

Total :	Mean:	**0.92**	Median:	**0.93**	Mini:	**0.80**

Table III

Coefficients of congruence (Tucker) between the structure of dimensions N. E. O. A C (Varimax Rotations) for the U.S. sample and the structure for the 15 selected samples:

	N	**E**	**O**	**A**	**C**	
Sample :						Mean:
Chinese	0.97	0.93	0.92	0.94	0.97	***0.946***
Croatian	0.95	*0.80*	0.92	0.86	0.94	***0.894***
Dutch	0.96	0.98	0.97	0.98	0.97	***0.972***
Estonian	0.95	0.90	0.95	0.92	0.96	***0.936***
French	0.89	0.96	0.97	0.97	0.97	***0.952***
Hebrew	0.98	0.92	0.96	0.94	0.95	***0.950***
Icelandic	0.93	0.94	0.95	0.98	0.96	***0.952***
Italian	0.92	*0.80*	0.94	*0.81*	0.98	***0.890***
Korean	0.97	0.94	0.94	0.95	0.96	***0.952***
Malay	0.94	0.93	*0.83*	0.94	0.97	***0.922***
Norwegian	0.96	0.93	0.90	0.96	0.94	***0.938***
Philippine	0.96	0.86	0.95	0.89	0.97	***0.926***
Portuguese	0.98	0.89	0.89	0.93	0.96	***0.930***
Russian	0.92	0.93	0.92	0.96	0.95	***0.936***
Spanish	0.94	0.90	0.92	0.86	0.95	***0.914***
Mean:	***0.948***	***0.907***	***0.929***	***0.926***	***0.96***	

Total :	Mean:	**0.934**	Median:	**0.94**	Mini:	**0.80**

In order to have a basis for the analysis of Congruence Coefficients, within the french Normative Sample (N=801), we previously examined the congruence between two varimax structures computed on two subsamples (S1 = subjects 1 to 400 and S2 = subjects 401 to 801), extracted from total French Normative sample. For these two subsamples in the same culture, **TCC** are respectively **N= 0.97, E= 0.87, O= 0.96, A= 0.84, C= 0.95.** These Congruence Coefficients in the same culture, which replicate some findings in Korean (see in: McCrae & Costa, 1997; Piedmont & Chae, 1997)[7] suggest that other sources than cultural differences can produce congruence coefficients < 0.85. With the 0.85 factorial replication threshold proposed by Haven and TenBerge (1977), we notice that for the dimensions Neuroticism and Conscientiousness, all cross-cultural comparisons are above the 0.85 threshold. Out of the 30 comparisons made on the dimension Conscientiousness, the minimum value is 0.94; the minimum value is 0.87 on the dimension Neuroticism. The cross-

[7] For these two different Korean samples, we obtained the following TCC: N=0.97, E=0.79, O=0.97, A=0.78, C=0.96.

cultural validity of these two dimensions is clearly established, the structure of these two dimensions which were assessed on the facets retained by McCrae and Costa (1992) is therefore identical in the linguistic and cultural contexts studied here. 28 out of 30 coefficients of congruence reached the 0.85 threshold on the dimensions Openness and Agreeableness, and just two did not (Openness, Malay/US: 0.83; Agreeableness, Italy/US: 0.81). Overall, the cross-cultural validity of these two dimensions is therefore satisfactory, as the facets retained to measure these two dimensions formed similar patterns in the various cultures.

Lastly, 26 out of 30 coefficients reached the 0.85 threshold on the dimension Extraversion, and only four (French/Estonian: 0,80; French/Norwegian: 0.82; U.S./Croatian: 0.80; U.S./Italian: 0.80) did not. Here, as in earlier research (Kallasmaa et al., 1999; McCrae et al., 1998), the facets retained by McCrae and Costa in the dimension Extraversion seem somewhat more sensitive to linguistic and cultural context effects. We can detect these facets by making a detailed analysis of the loading of facets in the dimensions Extraversion and Agreeableness on factors E and A. We notice that certain facets show loadings that are the reverse of what one would expect (Table IV). If we limit ourselves to the most obvious phenomena, Assertiveness (facet E3) contributes in 8 out of the 16 cultural contexts analyzed here (8/16), not to the factor Extraversion as would be expected, but –with negative loadings – to the factor Agreeableness. In the cultural contexts concerned (Croatian, Spanish, French, Icelandic, Italian, Dutch, Philippine, Portuguese) Assertiveness therefore contributes more to the negative pole (Hostility-Antagonism) of the dimension Agreeableness than to the positive pole which is Extraversion. Moreover, Altruism (facet A3), a component of Agreeableness in the model proposed by the authors, contributes more to the factor Extraversion in 6 contexts (Croatian, Philippine, Hebrew, Italian, Malay, Portuguese). Taking into account the links that are known to exist between the dimensions A and E (Kallasmaa et al., 1999; McCrae & Costa, 1989; McCrae et al., 1998; Wiggins, 1979) the origin of these discrepancies can at least be partially accounted for by the Varimax rotations, which are inappropriate for dimensions that are not orthogonal (Gurtman, 1997). However, they probably also reflect real cultural differences based on cultural/national emphasis on values.

Table IV

Inversions and loadings of facets of the dimensions E and A.

(Out of 16 factorial varimax structures from 16 cultural contexts).

Inversions of **E** towards **A**			Inversions of **A** towards **E**		
Warmth	E1	0/16	Trust	A1	5/16
Gregariousness	E2	0/16	Straightforwardness	A2	0/16
Assertiveness	E3	8/16	Altruism	A3	6/16
Activity	E4	3/16	Compliance	A4	0/16
Ecitement Seeking	E5	5/16	Modesty	A5	3/16
Positive Emotions	E6	0/16	Tender-Mindedness	A6	2/16

Discussion, Conclusions:

If we compare these results to findings produced in the psycholexical line of research, the divergence is clearly evident. In «emic»-type studies, the cross-cultural validity of the Neuroticism dimension is poor and the validity of the Openness dimension is even more problematic. The results obtained from an «etic»-type perspective following the lines of earlier research of a similar nature illustrate a strongly marked cross-cultural validity in these two dimensions. Although these differences may be partially attributed to the radical differences in objectives and methodology of the two approaches, these results do lead us to ponder, like Church and Loner, upon the validity of the assumptions underlying the lexical approach. For these authors: «Some individual differences may not be encoded in the natural language and the structure of the personality lexicon may not be identical to the structure of personality» (Church & Loner, 1998, p. 36). This point of view is also expressed by McCrae and Costa, for whom «It is simply not the case that all personality traits are encoded as adjectives. (...) Cultures select a limited range from among the spectrum of personality traits to encode in their lexicon, and they may select differently. Languages differ not only in the precise trait terms they include (as every translator knows) but more broadly in the aspects of personality their vocabilaries emphasize (Angleitner, Ostendorf, & John, 1990). Lexical studies thus confound differences in personality structure with differences in personality language» (McCrae & Costa, 1997, p. 510). It may still be a little too early for this type of conclusion. It is indeed not impossible that problematic results like these are partly due to the lexical material, usually adjectives, that are used in psycholexical studies. The Anglo-American language, and also Dutch and German, seem to dispose of a number of adjectives that describe the «Intellect» (Openness) dimension, whereas other languages such as Italian

(DiBlas & Forzi, 1999) and Turkish (Somer & Goldberg, 1999), for example, don't seem to. Neither is it impossible, as suggested by DiBlas & Forzi (DiBlas & Forzi, 1999, p.462 and p. 477), that it is due to the nouns and not the adjectives which, in certain types of languages, can be used for description and hence the extraction of this dimension. [8]

If the results of our study are added to those obtained in earlier research using the NEO-PI-R inventory to assess the five-factor model, [Angleitner & Ostendorf (2000), Costa, McCrae & Jónsson (1999), McCrae & Costa (1997), McCrae, Costa, DelPilar, Rolland & Parker (1998), Katigbak et al. (2000), among others], the cross-cultural validity of the dimensions N (Neuroticism), O (Openness) and C (Conscientiousness) is clearly evident. Our findings are all the more conclusive since they were obtained through the comparison of factors extracted after Varimax rotations (allowing for better expression of cultural specificities than the Procustes rotation method) and comparisons of widely diverse cultures. Certain facets of the dimensions E (Extraversion) and A (Agreeableness), which both relate to the interpersonal sphere, seem to be more sensitive to cultural context, but a circumplex-type model allows for a better description of the structure of these two domains (Gurtman, 1997; McCrae et al., 1998; Wiggins, 1979). All of these finding support the conclusions already formulated by McCrae et al. «We can assert that personality, as measured by the NEO-PI-R, can be characterized in every culture so far examined in terms of N, O, C factors plus the interpersonal circumplex; and Procustes rotations shows that the circumplex can always be interpreted in terms of E and A factors» (McCrae et al. 1998, p. 182). For D'Andrade (1965), very frequently quoted, dimensions extracted from descriptions of self or others are only artifacts that reflect the structure of the language. Findings from cross-cultural validity studies show that the structure of the F.F.M. can be replicated in very different languages. It is very unlikely that the structures of the languages in which this structure has been replicated are similar.

The five-factor model of personality therefore shows good cross-cultural validity, but this obviously doesn't signify that the model offers optimal representation in all cultures. The dimensions that are seemingly specific have, in fact, been described in a number of cultures and some of them just don't appear to correspond directly to the dimensions of the F.F.M. (Cheung & Leung., 1998; Church et al., 1997; Guanzon-Lapena et al., 1998; Yang & Bond, 1990; Yik & Bond, 1993; Katigbak et al., 1996). It is essential to develop studies aimed at detecting specific dimensions, however such studies don't always bring the expected results.

[8] In some languages, nouns and adjectives may not be distinguishable.

Guanzon-Lapena et al. (1998), for example, have drawn up a report on a considerable number of studies carried out in the Philippines, a country which has developed a long research tradition in indigenous psychology in the Tagalog language, and conclude that : «Each of the Big-Five domains is represented by one or more dimensions from each of the indigenous instruments. None of the indigenous dimensions is so culturally unique that it is unrecognizable to non-Filipinos, or that it cannot be subsumed at least conceptually, under the Big-Five dimensions. In other words, it appears that the general nature and range of personality concepts identified and assessed by these indigenous approaches can be encompassed by the western version of the Big-Five model of personality» (p. 265).

Other structural models have been and will undoubtedly be developed, but in the meantime the five-factor model of personality has proven its cross-cultural geralizability and its utility in a number of fields that are important in human behaviour. Hence, its predictive and explanatory potential continues to be successfully exploited in fields such as job performance (Barrick & Mount, 1999; Salgado, 1997; 1999), clinical and psychiatric psychology (Matthews et al., 1998; O'Connor & Dyce, in press; Yang et al., 1999, Yang et al. in press), health (Lemos-Giraldez & Fidalgo-Aliste, 1997), education and political psychology (Blickle, 1996; DeFruyt & Mervielde,1996; De Raad & Schouwenbourg, 1996; Riemann et al., 1993). Finally, validity studies which extend beyond the internal structure of the NEO-PI-R are needed to discover if various links in the nomological network of the F.F.M. are likewise generalizable.

References :

Almagor, M., Tellegen, A, & Waller, N.G. (1995). The big-seven model: A cross-cultural replication and further exploration of the basic dimensions of natural language trait-descriptors. *Journal of Personality and Social Psychology*, 69, 300-307.

Angleitner, A., Ostendorf, F. & John, O.P. (1990). Towards a taxonomy of personality terms in German: A psycho-lexical study. *European Journal of Personality*, 4, 89-118.

Angleitner, A., Ostendorf, F. (2000). A comparison of German speg countries (Austria, Former East and West Gy, and Switzerland). Contribution to the Symposium "Personality and Culture" organized by J. Allik and RR McCrae at the XXVII International Congress of Psychology, July 23-28, 200, Stockholm, Sweden.

Barrett, P. (1986). Factor comparison: an examination of three methods. *Personality and Individual Differences*, 7, 3, 327-340.

Barrett, P. & Eysenck. SBG (1984). The assessment of personality factors across 25 countries. *Personality and Individual Differences*. 5, 615-632.

Barrick, M.R. & Mount. M.K. (1999). The F.F.M. personality dimensions and job performance: A meta-analysis of meta-analyses. Paper presented at SIOP 14th Annual Conference, Atlanta, Georgia.

Benet-Martinez, V. & John, O.P. (1998). "Los Cinco Grandes" Across cultures and ethnic groups: Multitrait-multimethod analyses of the Big-Five in Spanish and English. *Journal of Personality and Social Psychology*, 75, 729-750.

Benet-Martinez, V. & John, O.P. (2000). Towards the development of quasi-indigenous personality constructs. *American Behavioral Scientist*, 44, 141-157. Special issue on "Personality traits and culture: New perspectives on some classic issues".

Benet-Martinez, V. & Waller, N.G. (1997). Further evidence of the cross-cultural generality of the Big-Seven model: indigeneous and imported Spanish personality constructs. *Journal of Personality,* 65, 567-598.

Berry, J.W. (1969). On cross-cultural comparability. *International Journal of Psychology,* 4, 119-128.

Blickle, G. (1996). Personality traits, learning strategies, and performance. *European Journal of Personality, 10*, 337-352.

Block, J. (1995a). A contrarian view of the five-factor approach to personality description. *Psychlogical Bulletin*, 117, 187-215.

Block, J. (1995b). Going beyond the five factors given: Rejoinder to Costa and McCrae (1995) and Goldberg and Saucier (1995). *Psychological Bulletin*, 117, 226-229.

Block, J. (2001). Millenial contrarianism: The five factor approach to personality description five years later. *Journal of Research in Personality* (in press).

Bond, (1979). Dimensions of personality in perceiving peers: Cross-cultural comparisons of Hong-Kong, Japanese, American and Filipino university students. *International Journal of Psychology,* 14, 47-56.

Bond, M.H., Nakazato, H., Shiraishi, D. (1975). Universality and distinctiveness in dimensions of Japanese person perception. *Journal of Cross-Cultural Psychology*, 6, 346-357.

Borkenau, P. & Ostendorf, F. (1990). Comparing exploratory and confirmatory analysis: A study on the 5-factor model of personality. *Personality and Individual Differences*, 11, 515-524.

Botwin, M.D. & Buss, D.M. (1989). Structure of act-report data: is the five-factor model of personality recaptured? *Journal of Personality and Social Psychology*, 56, 988-1001.

Brand, C.R. (1995). How many dimensions of personality? The «Big-Five», the «Gigantic 3» or the «Comprehensive 6»? *Psychologica Belgica*, 34, 257-273.

Briggs, S.R. (1992). Assessing the five-factor model of personality description. *Journal of Personality*, 60, 253-293.

Butcher, J.N., Han. K. (1996). Methods for establishing cross-cultural equivalence. In J.N. Butcher (Ed.). International adaptations of the MMPI-2: Research and clinical applications (pp.43-63). Minneapolis: University of Minnesota Press.

Butcher, J.N., Lim. J. & Nezami, E. (1998). Objective study of abnormal psychology in cross-cultural settings: The MMPI2. *Journal of Cross-Cultural Psychology*, 29, 1, 189-211.

Caprara, G.V., Barbaranelli, C., Borgogni, L. & Perugini, M. (1993). The "Big-Five Questionnaire": A new questionnaire to assess the Five Factor Model. *Personality and Individual Differences*, 15, 281-288.
Caprara, G.V., Perugini, M. (1994). Personality described by adjectives: Generalizability of the Big-Five to the Italian lexical context. *European Journal of Personality*, 8, 357-369.
Cattell, H.E.P. (1996). The original Big-Five: a historical perspective. *European Review of Applied Psychology*, 46, 5-14.
Chen, M.C. & Piedmont, R.L. (1999). Development and validation of the NEO-PI-R for a Taiwanese sample.In *Progress in Asian Psychology*, Vol. 2, T. Sugiman, M. Karasawa, J.H. Liu & C. Ward, (eds.). Kyoyook-Kwahak-Sa: Seoul; 105-119.
Cheung, F.M. & Leung, K. (1998). Indigenous personality measures: Chinese examples. *Journal of Cross-Cultural Psychology*, 29, 1, 233-248.
Church, A.T. & Burke, P.J. (1994). Exploratory and confirmatory tests of the Big Five and Tellegen's three and four dimensional models. *Journal of Personality and Social Psychology*, 66, 93-114.
Church, A.T., Reyes, J.A.S., Katigbak, M.S. & Grimm, S.D. (1997). Filipino personality structure and the Big-Five model: A lexical approach. *Journal of Personality*, 65, 477-528.
Costa, P.T. & McCrae, R.R. (1988). Personality in adulthood: a six-year longitudinal study of self reports and spouse ratings on the NEO-PI. *Journal of Personality and Social Psychology*, 54, 853-863.
Costa, P.T. & McCrae, R.R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources.
Costa, P.T. & McCrae, R.R. (1992). Four ways five factors are basic. *Personality and Individual Differences*,13, 6, 653-665.
Costa, P.T. & McCrae, R.R. (1994). Stability and change in personality from adolescence through adulthood. In C.F. Havelson, G.A. Kohnstamm, & R.P. Martin (Eds.). *The developing structure of temperament and personality from infancy to adulthood* (pp. 139-150). Hillsdale, HJ: Erlbaum.
Costa, P.T. & McCrae (1995). Solid grounds in the wetlands of personality: A reply to Block. *Psychological Bulletin*, 117, 216-220.
Costa, P.T. & McCrae, R.R. (1995b). Primary traits of Eysenck's PEN system: Three and Five factor solutions. *Journal of Personality and Social Psychology*, 69, 2, 308-317.
Costa, P. T. Jr., & McCrae, R. R. (1995c). Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory. *Journal of Personality Assessment, 64*, 21-50.
Costa, P.T., McCrae, R.R. & Jónsson, F.H. (1999) A new measure of personality in the old world: The NEO-PI-R in Europe. Paper presented at the XVth International Congress of the International Association for the Cross-Cultural Psychology, Graz.
D'Andrade, R.B. (1965). Trait psychology and componential analysis. *American Psychologist*, 67, 215-228
Deary, I.J. & Matthews, G. (1993). Traits are alive and well. *The Psychologist*, 6, 7, 299-311.
De Fruyt, F. & Mervielde, I. (1996). Personality and interests as predictors of educational streaming and achievement. *European Journal of Personality*, 10, 5, 405-426.
De Fruyt F. & Mervielde, I., Hoekstra, H.A. & Rolland, J.P. (2000). Assessing adolescents personality with the NEO-PI-R., *Assessment*, 7, 4, 329-346.
De Raad, B. (1992). The replicability of the Big-Five personality dimensions in three word-classes of the Dutch language. *European Journal of Personality*, 6, 15-29.
De Raad, B., DiBlas, L. & Perugini, M. (1998). Two independently constructed Italian trait taxonomies: Comparisons within Italian, and between Italian and Germanic languages. *European Journal of Personality*, 12, 19-41.
De Raad, B., Perugini, M. & Szirmak, Z. (1997). In pursuit of a cross-linguistic reference structure of personality traits: Comparisons between five languages. *European Journal of Personality*, 11, 167-185.
De Raad, B., Perugini, M., Hrebickova, M. & Szarota, P. (1998). Lingua franca of personality, Taxonomies and structures based on the psycholexical approach. *Journal of Cross-Cultural Psychology*, 29, 1, 212-232.
De Raad, B & Schouwenburg, H.C. (1996). Personality in learning and education. *European Journal of Personality*, 10, 5, 303-336.

De Raad, B. & VanEck, G.L. (1994). The Fifth of the Big-Five: Editorial [Special Issue]. *European Journal of Personality*, 8, (4), 225.
Di Blas, L. & Forzi, M. (1998). An alternative taxonomic study of personality descriptors in the Italian language. *European Journal of Personality*, 12, 75-101.
Di Blas, L. & Forzi, M. (1999). Refining a descriptive structure of personality attributes in the italian language: The abridged big three circumplex structure. *Journal of Personality and Social Psychology*, 76, 3, 451-481.
Digman, J.M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417-440.
Digman, J.M. & Shmelyov, A.S. (1996). The structure of temperament and personality in Russian children. *Journal of Personality and Social Psychology*, 71, 341-351.
Digman, J.M. & Takemoto-Chock, N. (1981). Factors in the natural language of personality: re-analysis and comparison of six major studies. *Multivariate Behavioral Research*, 16, 149-170.
Eysenck, H.J. (1991). Dimensions of personality: 16, 5 or 3? Criteria for a taxonomic paradigm. *Personality and Individual Differences*, 12, 8, 773-790.
Eysenck, H.J. (1992). Four ways five factors are not basic. *Personality and Individual Differences*, 13, 6, 667-673.
Eysenck, H.J. & Eysenck, S.B.G. (1982). Recent advances in the cross-cultural study of personality. In C.D. Spielberger & J.N. Butcher (eds.). *Advances in personality assessment* (pp. 42-69). Hillsdale, NJ : Erlbaum.
Eysenck, S.B.G. (1983). One approach to cross-cultural studies of personality. *Australian Journal of Personality*, 35, 3, 381-391.
Goldberg, L.R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.). *Review of Personality and Social Psychology* (Vol. 2, pp. 141-165). Beverly Hills, CA: Sage.
Goldberg, L.R. (1990). An alternative description of personality: the big-five factor structure. *Journal of Personality and Social Psychology*, 59, 6, 11216-1229
Goldberg, L.R. (1992). The development of markers for the Big-five factor stucture. *Psychological Assessment*, 4, 1, 26-42.
Goldberg, L.R. (1993). The structure of phenotypic traits. *American Psychologist*, 48, 26-34.
Goldberg, L.R. (1995). What the hell took so long? Donald Fiske and the Big-Five structure. In P.E. Shrout & S.T. Fiske (Eds.). *Personality research, methods and theory: A festschrift honoring Donald W. Fiske* (pp. 29-43). Hillsdale, NJ: Erlbaum.
Goldberg, L.R. & Saucier, G. (1995). So what do you propose we use instead? A reply to Block. *Psychological Bulletin*, 117, 221-225.
Guanzon-Lapena, M.A., Church, A.T ., Carlota, A.J. & Katigbak, M.S. (1998). Indigenous personality measures: Philippine examples. *Journal of Cross-Cultural Psychology*, 29, 1, 249-266.
Gurtman, M.B. (1997). Studying personality traits: The circular way. In R. Plutchik & H.R. Conte (Eds.). *Circumplex models of personality and emotions* (pp.81-102). Washington, DC: American Psychological Associations.
Guthrie, G.M. & Bennett, A.B. (1971). Cultural differences in implicit personality theory . *International Journal of Psychology*, 6, 305-312.
Haven, S. & Ten Berge, J.M.F. (1977). Tucker's coefficient of congruence as a measure of factorial invariance: An empirical study. Unpublished manuscript. University of Groningen.
Heaven, PCL, Connors, C.R. & Stones, C.R. (1994). Three of five personality dimensions? An analysis of natural language terms in two cultures. *Personality and Individual Differences*, 17, 181-190.
Hendriks, A.A.J. & Perugini, M. (2000). A Psycholexical Structure of Personality: Cross-Cultural Generalizability across 13 Countries of the Five-Factor Personality Inventory. Paper presented at ECP10, Krakow, July 16-20, 2000.
Hoekstra, H. A., Ormel, J. & De Fruyt, F. (1996). *Handleiding NEO Persoonlijkheids-vragenlijsten NEO-PI-R en NEO-FFI [Manual for NEO Personality Inventories NEO-PI-R and NEO-FFI*]. Lisse, The Netherlands: Swets & Zeitlinger.
Hoekstra, H.A., Ormel, J. & De Fruyt, F. (1997). *NEO-Persoonlijkheidsvragenlijsten*. Lisse: Swets & Zeitlinger Publishers.

Hofstee, W.K.B., DeRaad, B., & Goldberg, L. (1992). Integration of the Big-Five and circumplex approaches to trait structure. *Journal of Personality and Social Psychology*, 63, 146-163.
Hofstee, W.K.B., Kiers, H.A.L., DeRaad, B., Goldberg, L. & Ostendorf, F. (1997). Comparisons of the big-five structures of personality in Dutch, English, and German. *European Journal of Personality*, 11, 15-31.
Hrebickova, M. (1995). The structural model of personality based on the lexical analysis: A Czech replication of the five-factor model based on a comprehensive taxonomy of personality-descriptive adjectives. Unpublished manuscript, Institute of Psychology, Academy of Sciences of the Czech Republic, Brno.
Isaka, H. (1990). Factor analysis of traits in everyday Japanese language. *Personality and Individual Differences*, 11, 115-124.
Jackson, D.N. (1984). *Personality Research Form manual*. Port Huron, MI: Research Psychologists Press.
John, O.P. (1990). The Big-Five factor taxonomy: dimensions of personality in the natural language and in questionnaires. In E. Pervin (Ed.). *Handbook of Personality: Theory and Research (*pp. 66-100). New York: Guilford Press.
John, O.P., Angleitner, A. & Ostendorf, F. (1988). The lexical approach to personality: a historical review of trait taxonomic research. *European Journal of Personality*, 2, 3, 171-203.
Juni, S. (1996). Review of the revised NEO Personality Inventory. In J.C. Conoley & J.C. Impara (Eds.). *12th Mental Measurement Yearbook* (pp. 863-868). Lincoln, NB: University of Nebraska Press.
John, O.P., Goldberg, L. & Angleitner, A. (1984). Better than the alphabet: Taxonomies of personality descriptive terms in English, Dutch and German. In H. Bonarius, G. VanEck, & N. Smith (Eds.). *Personality psychology in Europe: Vol.1. Theoretical and empirical developments* (pp. 88-100). Tilburg, the Netherlands: Tilburg University Press.
Kallasmaa, T., Allik, J., Realo, A., & McCrae, R. R. (1999). *The structure and properties of the Estonian-language NEO-PI-R.* Unpublished manuscript. University of Tartu.
Kallasmaa, T., Allik, J., Realo, A., & McCrae, R. R. (2000). TheEstonian version of the NEO-PI-R: An examination of universal and culture-specific aspects of the five-factor model. *European Journal of*
Personality, 14(3), 265-278.
Katigbak, M.S., Church, A.T., Guanzon-Lapena, Ma. A., Carlota, A.J. & del Pilar, G. (2000). Indigenous Philippine Dimensions and the Five-Factor Model. Contribution to the Symposium "Personality and Culture", J. Allik (Chair), presented at the XXVIIth International Congress of Psychology, July, 2000, Stockholm, Sweden.
Katigbak, M.S., Church, A.T. & Akamine, T.X. (1996). Cross-cultural generalizability of personality dimensions: Relating indigenous and imported dimensions in two cultures. *Journal of Personality ansd Social Psychology*, 70, 1, 99-114.
King, J.E. & Figueredo, A.J. (1997). The Five Factor Model plus dominance in chimpanzee personality. *Journal of Research in Personality*, 31, 257-271.
Knecevic, G., Radovic, B., & Opacic, G. (1997). *An evaluation of the "Big Five Model" of personality through an analysis of the NEO-PI-R Personality Inventory*. Unpublished manuscript. University of Belgrad.
Lemos-Giráldez, S., & Fidalgo-Aliste, A. M. (1997). Personality dispositions and health-related habits and attitudes: A cross-sectional study. *European Journal of Personality, 11*, 197-209.
Loevinger, J. (1994). Has psychology lost its conscience? *Journal of Personality Assessment,*
62, 2-8.
Marusic, I., Bratko, D. & Eterovic, H. (1996). A contribution to the cross-cultural replicability of the five-factor personality model. *Review of Psychology*, 3, 1-2, 23-35.
Markus, H.R. & Kitayama, S. (1991). Culture and the Self: Implications for cognition, emotion and motivation. *Psychological Review*, 98, 224-253.
Markus, H.R. & Kitayama, S. (1998). The cultural psychology of personality. *Journal of Cross-Cultural Psycholog*, 29, 1, 63-87.
Martin, T. A., Draguns, J. G., Oryol, V. E., Senin, I. G., Rukavishnikov, A. A. & Klotz, M. L. (1997, August). *Development of a Russian-language NEO-PI-R.* Paper presented at the Annual Convention of the American Psychological Convention, Chicago, IL.

Mastor , H.R., Cooper, M., Jin, P. (1998). Malay personality structure: An etic approach using the Big-Five Model. Paper presented at the XIVth International Congress of the International Association for the Cross-Cultural Psychology, Bellingham, WA.
Matthews, G., Saklofske, D.H., Costa, P. T. Jr., Deary, I.J. & Zeidner, M. (1998). Dimensional models of personality: A framework for systematic clinical assessment. *European Journal of Psychological Assessmen, 14*, 36-49.
McAdams, D.P. (1992). The Five Factor model of personality: A critical appraisal. *Journal of Personality,* 60, 329-361.
McCrae, R.R. (1989). Why I advocate the five-factor model: Joint analyses of the NEO-PI and other instruments. In D. M. Buss & N. Cantor (Eds.). *Personality psychology: Recent trends and emerging directions* (pp. 237-245). New York: Springer-Verlag.
McCrae, R.R. (1994). Openness to experience: expanding the boundaries of factor V. *European Journal of Personality,* 8, 251-272.
McCrae, R.R. & Costa, P.T. (1987). Validation of the five factor model of personality across instruments and observers. *Journal of Personality and Social Psychology,* 52, 81-90.
McCrae, R.R. & Costa, P.T. (1989). The structure of interpersonal traits: Wiggings circumplex and the five-factor model. *Journal of Personality and Social Psychology,* 56, 586-595.
McCrae, R. R. & Costa, P. T., Jr. (1995). Positive and negative valence within the Five-Factor Model. *Journal of Research in Personality, 29,* 443-460.
McCrae, R.R. & Costa, P.T. (1997). Personality trait structure as a human universal. *American Psychologist,* 52, 5, 509-516.
McCrae, RR & John, O.P. (1992). An introduction to the FFM and its applications. *Journal of Personality,* 60, 175-215
McCrae, R.R., Costa, P.T., Del Pilar, G., Rolland, J.P. & Parker, W.D. (1998). Cross-cultural assessment of the five-factor model: The revised NEO Personality Inventory. *Journal of Cross-Cultural Psychology*, 29, 1, 171-188.
McCrae, R.R., Costa, P.T. & Yik, M.S.M. (1996). Universal aspects of the chinese personality structure. In M.H. Bond (Ed.) *The Handbook of Chinese Psychology*. (pp. 190-207). Hong Kong : Oxford University Press.
McCrae, R.R., Zonderman, A.B., Costa, P.T., Bond, M.H. & Paunonen, S.V. (1996). Evaluating replicability of factors in the revised NEO-PI: Confirmatory factor analysis versus Procustes rotation. *Journal of Personality and Social Psychology*, 70, 3, 552-566.
Mervielde, I. & DeFruyt, F. (2000). The "Big-Five" personality factors as a model of structure of children's peer nominations. *European Journal of Personality*, 14, 91-106.
Mlacic, B. (2000). Taxonomy and structure of Croatian personality-descriptive adjectives. Paper presented at the Symposium 3Personality Structure". 10th European Conference on Personality, July, 20th, Krakow.
Montag, I. & Levin, (1994).The five-factor personality model in applied settings. *European Journal of Personality,* 8, 1-11.
Norman, W.T. (1963). Towards an adequate taxonomy of personality attributes: replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 66, 574-583.
O'Connor, B.P. & Dyce, J.A. (in press). Tests of general and specific models of personality disorder configuration. in P.T. Costa & Widiger, T.A. (Eds.). *Personality Disorders and the Five-Factor Model of Personality (2d Edition).* American Psychological Association, Washington, DC, USA. (in press).
Ostendorf, F. (1990). *Sprache und personlichkeitsstruktur: Zur validitat des Funf-Faktoren-Modells der Personlichkeit* [Language and Personality Structure de la personnalité: Validity of the Five Factor Model of Personality] Regensburg, Germany, Roderer.
Paunonen, S.V. & Ashton, M.C. (1998). The structured assessment of personality across cultures. *Journal of Cross-Cultural Psychology*, 29, 1, 150-170.
Paunonen, S.V., Jackson, D.N. & Keinonen, M. (1990). The structured non-verbal assessment of personality. *Journal of Personality*, 58, 481-502.
Paunonen, S.V., Jackson, DN., Trzebinski, J. & Fosterling, F. (1992). Personality structure across cultures : a multimethod evaluation. *Journal of Personality and Social Psychology*, 62, 447-456.

Paunonen, S.V., Keikonnen, M., Trzebinski, J. & Fosterling, F. & Grishenko-Rose, N., Kouuznetsova, L. & Chan, D.W. (1996). The structure of personality in six cultures. *Journal of Cross-Cultural Psychology*, 27, 339-353.
Paunonen, S.V., Zeidner, M., Engvik, H.A., Oosterveld, P. & Maliphant, R. (2000). The NonVerbal Assessment of Personality in Five Cultures. *Journal of Cross-Cultural Psychology*, 31, 2, 220-239.
Peabody, D. & Goldberg, L.R. (1989). Some determinants of factor structures from personality trait-descriptors. *Journal of Personality and Social Psychology*, 57, 552-567.
Perugini, M. & Leone, L. (1996). Construction and validation of a Short Adjective Checklist to measure the Big-Five. *European journal of Psychological Assessment*, 12, 33-42.
Pervin, L.A. (1994). A critical appraisal of current trait theory. *Psychological Inquiry*, 5, 552-567.
Piedmont, R.L. & Chae, J-H (1997). Cross-cultural generalizability of the five-factor model of personality. Development and validation of the NEO-PI-R for Koreans. *Journal of Cross-Cultural Psychology*, 28, 2, 131-155.
Plutchik, R. & Conte, H.R. (1997). *Circumplex models of personality and emotions*. Washington, DC : American Psychological Association.
Pulver, A., Allik, J., Pulkkinen, L. & Hämäläinen, M. (1995). A Big-Five personality inventory in two non-Indo-European languages. *European Journal of Personality*, 9, 2, 109-124.
Riemann, R., Grubich, C., Hempel, S., Mergl, S. & Richter, M. (1993). Personality and attitudes towards current political topics. *Personality and Individual Differences*, 15, 313-321.
Rolland, J.P. (1993). Validité de construct de « marqueurs » des dimensions de personnalité du modèle en cinq facteurs.[Construct validity of FFM dimensions markers] *European Review of Applied Psychology*, 43, 4, 317-337.
Rolland, J.P. (1996). Décrire la personnalité : La structure de second-ordre dans la perspective des Big-Five. [Describing Personality: The second-order structure from Big-Five perspective]. *Pratiques Psychologiques*, 4, 35-47.
Rolland, J.P. (1998). *Manuel de l'inventaire NEO-PI-R (Adaptation française).* [Manual of the NEO-PI-R, French adaptation]. Paris. ECPA.
Rolland, J.P., Parker, W.D. & Stumpf, H. (1998). A psychometric examination of the French translation of the NEO-PI-R and NEO-FFI. *Journal of Personality Assessment*, 71, 2, 269-291.
Salgado, J. F. (1997). The Five-Factor Model of personality and job performance in the European Community. *Journal of Applied Psychology, 82*, 30-43.
Salgado, J.F. (1999). Predicting job performance using personality measures based explicitly on the F.F.M. Paper presented at SIOP 14th Annual Conference, Atlanta, Georgia.
Saucier, G. (1997). Effects of variable selection on the factor structure of person descriptors. *Journal of Personality and Social Psychology*, 73, 1296-1035.
Saucier, G., Ostendorf, F. & Peabody, D. (1998). The non-evaluative circumplex of personality adjectives. Manuscript submitted for publication.
Somer, O. & Goldberg, L.R. (1999). The structure of Turkish trait-descriptive adjectives. *Journal of Personality ans Social Psychology*, 76, 3, 431-450.
Szirmak, Z. & DeRaad, B. (1994). Taxonomy and structure of Hungarian personality traits. *European Journal of Personality*, 8, 95-118.
Stumpf, (1993). The factor structure of the Personality Research Form: A cross-national evaluation. *Journal of Personality*, 61, 27-48.
Trull, T.J. & Geary, D.C. (1997). Comparison of the big-five factor structure across samples of Chinese and American adults. *Journal of Personality Assessment*, 69, 2, 324-341.
Tucker, L.J. (1951). A method for synthesis of factor analytic studies. (Personnel Research Selection, Report N° 984). Washington , DC: Department of the Army.
Tupes, E.C. & Christal, R.E. (1961). Recurrent personality factors bas(ed on trait ratings. Republished in *Journal of Personality*, 1992, p.60, 2, 225-251.
Weis, A., King, J.E. & Figuueiredo, A.J. (2000). The heritability of personality traits in chimpanzees (Pan troglodytes). *Behavior Genetics*, 30, 213-221.
Wiggins, J.S. (1979). A psychological taxonomy of trait-descriptive terms: the interpersonal domain. *Journal of Personality and Social Psychology*, 37, 395-412.

Wiggins, J.S. & Trapnell, P.D. (1997). Personality structure: the return of the big-Five. In R. Hogan, J.A. Johnson & S.R. Briggs (Eds.). *Handbook of personality psychology* (pp. 737-765). SanDiego, CA: Academic Press.

Yang, K.S. & Bond, M.H. (1990). Exploring implicit personality theories with indigenous or imported constructs : The chinese case. *Journal of Personality and Social Psychology*, 58, 1087-1095.

Yang, J., McCrae, R.R., Costa, P.T., Dai, X., Yao, S., Cai, T. & Gao, B. (1999). Cross-Cultural personality assessment in psychiatric populations: The NEO-PI-R in The People's Republic of China. *Psychological Assessment*. 11, 359-368.

Yang, J., Dai, X., Yao, S., Cai, T., Gao, B., McCrae, R.R., Costa, P.T. (in press). Personality Disorders and the Five-Factor Model of Personality in Chinese Psychiatric Patients. in P.T. Costa & Widiger, T.A. (Eds.). *Personality Disorders and the Five-Factor Model of Personality (2d Edition)*. American Psychological Association, Washington, DC, USA. (in press).

Yik, MSM & Bond, MH (1993). Exploring the dimensions of person perception with indigeneous or imported constructs: Creating a culturally balanced scale. *International Journal of Psychology*, 28-75-95.